News Release

Defense Advanced Research Projects Agency

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DARPA BEGINS LEGGED SQUAD SUPPORT SYSTEM PROGRAM

The Defense Advanced Research Projects Agency (DARPA) awarded a contract on January 26, 2010, under the Legged Squad Support System (LS3) program. Boston Dynamics of Waltham, Massachusetts, will receive $32 million for a 30-month phase that includes trade studies, detailed design work, and building of initial prototypes.

The LS3 program is a joint effort between DARPA's Tactical Technology Office (TTO) and the U.S. Marine Corps Warfighting Lab (MCWL). The program goal is to develop a walking quadruped platform that will augment squads by carrying traditional and new equipment autonomously. These platforms will be capable of managing complex terrain where tactical vehicles are not able to go—lightening the load of Marines and Soldiers and increasing their combat capability. LS3 will carry 400 pounds or more of payload, and provide 24 hours of self-sustained capability over as much as 20 miles of maneuver. LS3 will weigh no more than 1,250 pounds (including its base weight, fuel and payload of 400 pounds).

Key LS3 program themes are:

(i) *Quadruped platform development:* design of a deployable walking platform with sufficient payload capacity, range, endurance, and low noise signature for dismounted squad support, while keeping weight and volume scaled to the squad level.

(ii) *Walking control:* develop control techniques that allow walking, trotting, and running/ bounding and capabilities to jump obstacles, cross ditches, recover from disturbances, and other discrete mobility features.

(iii) *User Interface (to include perception technologies):* the ability for the vehicle to perceive and traverse its immediate terrain environment autonomously with simple methods of Marine/Soldier control.

Boston Dynamics' partners on the LS3 program include Bell Helicopter, AAI Corporation, Carnegie Mellon University, the Jet Propulsion Laboratory and Woodward HRT.

Following this initial LS3 design and build phase, DARPA and the Marine Corps will review the results and determine future program phases that may lead to full LS3 integration and experimentation with operational platforms.

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